BRUHATH BANGALORE MAHANAGARA PALIKE

Yalahanka ELECTRICAL DIVISION

PRE MEASUREMENT BOOK

Name of work: :-ProvidingLED Street lighting along with Tubular poles and connected accessories from jakkur Rail Way crossing to Thanisandra Main road(Rail way Parallel Road) in ward no 05 &06.

Name of Contractror of nature of Agency:- M/s Prashanth Electricals

Job Code No:- 006-21-000019

Ref no and Date of commencement of work:-:-EE(ele)/YZ/W.O/000004/2021-22 Date 17/11/2021

Measurement Book No: 2537(2)-22 **Page No:** 05-317 — 324

Bill NO :- 1St & Final Bill

Sl. No.	Description of item		Unit	Present Measurements		
				Qty	Tender Full Rate	Cost
1	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Octagonal pole** with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended. **7 meters** - Top 70mm and bottom 130mm dia		Nos	49	6984.27	342229.23
2	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1500mm Standard 40/50MM dia		Nos	49	1349.57	66128.93
	Rail way Parallel road from Airport to GKVK Layout	34				
	MCECHS layout Old Railway crossing	2				
	MCECHS layout 1 St Phase Median near Old Railway crossing	3				
	Dutta layout Kattegenahalli	2				
	Reva college road	1				
	Near Kodigehalli railway station Ward no 8	1				
	Railway parallel road near Akshara Yoga Ward no 8	1				
	Railway parallel road near old railway crossing Ward no 7	1				
	Kodigehalli under pass	3				
	VE/05/EFR/099 KV jayaram road near Nandini parlour	1				
		49				
3	Supplying and Fixing of...mm dia class A GI pipe bracket up to 2 Mtrs long bent at suitable angle and fixing to this bracket 1x40/2x40 watts fluorescent tube street light fitting of all capacities to GI or CI or rail or RCC pole / wall using suitable clamps, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe		Nos	20	533.57	10671.40

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
(ವಿದ್ಯುತ್) ಯಲಹಂಕ ಉಪವಿಭಾಗ
ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

4	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with....W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 120 Watts		Nos	69	5878.8	405637.20
5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.		Each	69	111.83	7716.27
	Rail way Parallel road from Airport to GKVK Layout	34				
	MCECHS layout Old Railway crossing	2				
	MCECHS layout 1 St Phase Median near Old Railway crossing	5				
	Dutta layout Kattegenahalli	2				
	Reva college road	1				
	VE/05/EFR/099 KV jayaram road near Nandini parlour	1				
	MCECHS layout main road near Patel Medical store	2				
	VE/05/RPR/TC242/01/S	1				
	VE/05/RPR/TC242/02/S	1				
	VE/05/RPR/TC242/03/S	1				
	VE/05/RPR/TC242/04/S	1				
	VE/05/RPR/TC242/05/S	1				
	VE/05/RPR/TC242/06/S	1				
	VE/05/EFR/TC279/57/F	1				
	VE/05/EFR/TC279/49/F	1				
	VE/05/EFR/TC279/50/O	1				
	VE/05/EFR/099	1				
	VE/05/EFR/100	1				
	VE/05/EFR/133	1				
	VE/05/EFR/141	1				
	VE/05/EFR/151	1				
	VE/05/EFR/153	1				
	VE/05/EFR/TC242/158/F	1				
	VE/05/EFR/TC242/159/F	1				

VE/05/EFR/TC242/160/F	1				
VE/05/MZP/00/14/TC242/02/F	1				
VE/05/CFR/TC242/162/F	1				
VE/05/EFR/TC280/52/F	1				
VE/05/J/02/06/TC81/02	1				
Jakkur Double road Opp IG house	1				
Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 5) 3.5 core 25 sqmm		Mtr	2397	115.02	275702.94
Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required. 7) 25 sqmm to 75 sqmm		Rmt	2397	22.37	53620.89
VE/05/SJR/23/S TO 22/S	33				
VE/05/SJR/24/S TO 23/S	33				
VE/05/SJR/24/S TO 25/S	33				
VE/05/SJR/25/S TO 26/S	33				
VE/05/SJR/26/S TO 27/S	33				
VE/05/SJR/27/S TO 28/S	33				
VE/05/SJR/28/S TO 29/S	33				
VE/05/SJR/29/S TO 30/S	33				
VE/05/SJR/30/S TO 31/S	33				
VE/05/SJR/31/S TO 32/S	33				
VE/05/SJR/32/S TO 33/S	33				
VE/05/SJR/33/S TO 34/S	33				
VE/05/SJR/34/S TO 35/S	33				
VE/05/SJR/35/S TO 36/S	33				
VE/05/SJR/36/S TO 37/S	33				
VE/05/SJR/37/S TO 38/S	33				
VE/05/SJR/38/S TO 39/S	33				
VE/05/SJR/39/S TO 40/S	33				
VE/05/SJR/40/S TO 41/S	33				
VE/05/SJR/41/S TO 42/S	33				
VE/05/SJR/42/S TO 43/S	33				
VE/05/ML/04/05/S TO	38				
VE/05/ML/04/02/01/S	0				
VE/05/ML/02/00/06/S TO	74				
VE/05/ML/03/00/03/S	0				
VE/05/ML/03/04/06/S TO	65				
VE/05/ML/01/00/02/S	0				
Rail way Parallel road from Airport to GKVK Layout					
New Pole 1 TO 32 31 Span X 33 Mtr	1023				
Kodigehalli underpass Tubular pole Thindlu side Pole No 01 to 02	23				
Kodigehalli underpass Tubular pole Thindlu side Pole No 02 to 03	23				
Kodigehalli underpass Tubular pole Thindlu side Pole No 03 to 04	27				
Kodigehalli underpass Tubular pole Thindlu side Pole No 04 to 05	37				
Kodigehalli underpass Tubular pole Thindlu side Pole No 05 to 06	37				
Kodigehalli underpass Tubular pole Thindlu side Pole No 06 to 07	23				

	Kodigehalli underpass Tubular pole Thindlu side Pole No 07 to 08	23				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 08 to 09	22				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 09 to 10	23				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 10 to 11	22				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 11 to 12	23				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 12 to 13	22				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 13 to 14	22				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 15 to 16	27				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 16 to 17	25				
	Kodigehalli underpass Tubular pole Thindlu side Pole No 17 to 18	27				
	Kodigehalli underpass Flood light	24				
	Kodigehalli underpass Flood light	25				
	Kodigehalli underpass Flood light to Flood light	25				
	Kodigehalli underpass Tubular pole to Flood light	24				
		2397				
8	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) 2) In soil (ordinary)		Mtrs	502	48.56	24377.12
9	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint. 2) 50x50x6mm		Per Mtr	29	210.87	6115.23
10	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) THREE POLE, 1) 100Amps 25kA.		Each	4	2894.67	11578.68
11	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers. 4) 100Amps		Per Mtr	12	223.01	2676.12
12	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete. 1) 14SWG		Mtr	0	0.26	0.00
13	Supplying and fixing hylum plastic sheet 3mm thick with necessary nitches for fixing switches, regulators etc., and fixing on existing wood or metal box using N.F. screws.		Sqcm	0	0.15	0.00

14	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 12 mm dia	No	4	1916.81	7667.24
15	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm GI strip	Mtrs	19	47.93	910.67
16	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm	Mtrs	16	214.07	3425.12
17	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.25Sqmm	Nos	4	223.65	894.60
18	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments.10. sqmm	Mtrs	38	73.49	2792.62
19	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest amendments.1.5 sqmm	Mtrs	194	13.01	2523.94
20	Wiring for lighting/power circuit using one of PVC insulated 1100V grade, stranded Aluminium wire single core in open or concealed system of wiring. 4 sqmm	Mtrs	98	5.75	563.50
21	Providing RCC Foundation for Installation of Octagonal/Tubular Pole of up to 8 mtr Data-rate As per The Drawing and Civil estimate enclosed	Nos	49	3175.83	155615.67
22	Thiristor based single/ Three phase smart street light control and monitoring system Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.	Nos	4	32908.50	131634.00

	Jakkuru Railway Parluar Road	1				
	Jakkuru Under pass	2				
	Lottegullana Halli	1				
23	Supplying of 1.1KV grade Aerial Bunched Cable Stranded & Compacted Aluminum Phase Conductor, and Stranded Messenger Conductor with all aluminum Alloy, Phase Conductor is insulated with XLPE Compound, insulated Messenger with specified IS-14255:1995 & confirming to GTP of GROUP-A.2 X 25 + 1 X 25 SQ.MM		Per Mtr	398	92.20	36695.60
24	Stringing of 1.1kV grade aerial bunched 3 core cable of XLPE insulation of size (3x95) (for Phase conductor) + (1x70) (insulated messenger neutral) + (1x25) for street light control.		Mtrs	398	14.35	5711.30
	New Pole 32 TO RCC Pole Timer	45				
	New Pole to New Pole	35				
	New Pole to RCC Pole	35				
	MCHS Jakkur railway under pass					
	New Pole to New Pole	40				
	New Pole to VE/05/EFR/175/5	40				
	VE/05/EFR/175/S to VE/05/EFR/37/S	32				
	VE/05/EFR/37/S to RCC Pole	30				
	RCC Pole to VE/05/EFR/38/S	40				
	VE/05/EFR/38/S to VE/05/EFR/39/S	40				
	VE/05/EFR/39/S to VE/05/EFR/42/S	40				
	VE/05/EFR/42/S to VE/05/EFR/44/S	42				
		419				
25	Supplaying of LT 2 Pin X Arms - MS (Dwg No. BESCOM/GM/QS&S/32 Dtd 24.11.2018		Nos	20	55.59	1111.80
26	Supplaying of RCC Pole clamp - MS (Dwg No. BESCOM/GM/QS&S/30 Dtd 24.11.2018)		Nos	20	33.87	677.40
27	Supplaying of Piercing Connector Suitable for 16 Sqmm - 95 Sqmm AB Cable - Street Light Connections		Nos	36	105.44	3795.84
28	Supplaying of Dead End Clamp/Anchor Clamp Assembly 25 to 95 Sqmm Bare Messenger(Exclusive of pole clamp and eye hook)		Nos	4	86.27	345.08
29	Installation of Insulation piercing connector for main to street light Main : 16-95sqmm, Tap : 1.5-10sqmm(EP95)		Nos	36	37.70	1357.20
30	Fixing of Universal/ Dead end Hook		Nos	4	81.15	324.60
31	Supplay of Suspension Clamp Assembly 16 to 70 Sqmm Bare Messenger(Exclusive of pole clamp and eye hook) 284845 No		Nos	18	125.24	2254.32
32	Erection of Suspension Clamp - 25 to 95 sqmm bare messenger			18	81.15	1460.70
33	RCC Pole - 9 Mtr Long, 150 Kg WL Sq Section (Dwg No. BESCOM/GM/QS&S/51 Dtd 24.11.2018) as per IS-785		Nos	3	4578.44	13735.32
34	Supplaying of LT 4 Pin X Arms - MS (Dwg No. BESCOM/GM/QS&S/32 Dtd 24.11.2018)		Nos	3	122.05	366.15

	# 41, 3rd crs Balaji Layout near sampegehalli	3				
35	Supplaying of 1.1kV Ceramic Pin Insulator (Shell only		Nos	10	11.50	115.00
36	Supplaying of 1.1kV GI Pin FOR 1.1kV Cermaic shell Insulator		Nos	10	19.17	191.70
37	Supplaying of No.8 Strain Insulator		Nos	8	10.22	81.76
38	Supplaying of Weasel ACSR (6/2.59 mm Al + 1/2.59 mm St), Std Wt : 128 kgs/km		Mtrs	718	13.77	9886.86
39	Digging of Pits 1.8 mtr depth for errection of 9 to 10 mtr Long Steel/RCC/PSC supports as per approved Drawing.Ordinary Soil		Nos	3	265.82	797.46
40	Erection of RCC/PSC poles 9 to 10 mtr long but in a pit of 1.8 mtr depth		Nos	3	479.25	1437.75
41	Fixing of 4 Pin cross arm with insulator and Braces fixing		Nos	3	67.73	203.19
42	Stringing of conductor squirrel, weasel, binding of conductor on each insulator and dead ending on strain or disc/strain insulator by means of clamps for Rabbit ACSR		Mtrs	718	1.83	1313.94
	# 41, 3rd crs Balaji Layout near sampegehalli4 spanx5wirex36mtrs=	720				
	Total Rs					**1594344.34**
	Add GST @ 12% on item No 1 to 21		1380847.37			165701.68
	Total Rs					**1760046.02**

CERTIFICATE:

1.This is certify that the work done is saticefactorily.
2.This is certify that the bill amount calimed in this bill Has not claimed in any of the previous bills.

Junior Engineer(Elec)
Yalahanka Division

Asst.Exe.Engineer(Elec)
Yalahanka Division

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
(ವಿದ್ಯುತ್) ಯಲಹಂಕ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
(ವಿದ್ಯುತ್) ಯಲಹಂಕ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ